

What is claimed is:

1. A laser scanning device, comprising:
 - a laser source which emits a laser beam;
 - a deflector which dynamically deflects the laser beam emitted by said laser source, the laser beam scanning in a main scanning direction within a predetermined angular area;
 - a photodetector which receives light and output electronic signal corresponding to the received light; and
 - a sensor lens arranged to receive the laser beam scanning at a predetermined scanning range, said sensor lens having power at least in the main scanning direction, said sensor lens converging the incident laser beam on said photodetector, said sensor lens having width in the main scanning direction varying in the auxiliary scanning direction.
2. The laser scanning device according to claim 1, wherein said sensor lens is formed to be asymmetrical in the auxiliary scanning direction.
3. The laser scanning device according to claim 2, wherein the width of said sensor lens in the main scanning direction varies stepwise depending on a position in the auxiliary scanning direction.

4. The laser scanning device according to claim 2, wherein the width of said sensor lens in the main scanning direction varies continuously depending on a position in the auxiliary scanning direction.

5. The laser scanning device according to claim 4, wherein said sensor lens is formed in a triangle-like shape whose oblique sides are tilted in the main scanning direction relative to a photosensitive surface of said photodetector.

6. The laser scanning device according to claim 1, wherein said sensor lens converges the laser beam only in the main scanning direction on said photodetector.

7. The laser scanning device according to claim 6, wherein said sensor lens is formed as a part of a cylindrical lens.

8. The laser scanning device according to claim 6, wherein said photodetector has a light receiving area elongated in the auxiliary scanning direction.

9. The laser scanning device according to claim 8, wherein a length of the light receiving area of said photodetector in the auxiliary scanning direction is substantially equal to the length of said sensor lens in the auxiliary scanning direction.

10. The laser scanning device according to claim 1, wherein said sensor lens converges the laser beam both in the main scanning direction and in the auxiliary scanning direction on said photodetector.

11. The laser scanning device according to claim 10, wherein said photodetector has a light receiving area elongated in the auxiliary scanning direction.

12. The laser scanning device according to claim 11, wherein said photodetector has a light receiving area whose length in the auxiliary scanning direction is shorter than the length of said sensor lens in the auxiliary scanning direction.

13. The laser scanning device according to claim 11, wherein said sensor lens converges the laser beam on a substantially predetermined position regardless of a position of the incident laser beam.

14. The laser scanning device according to claim 13, wherein said sensor lens is formed as a part of a convex lens.

15. The laser scanning device according to claim 13, wherein said photodetector has a light receiving surface which is

arranged to receive only the laser beam converged on the predetermined position.

16. The laser scanning device according to claim 1, wherein said photodetector also serves as a photodetector for outputting a main scanning timing signal which indicates timing of main scan of the laser beam in the main scanning direction.

17. The laser scanning device according to claim 1, wherein said laser source is mounted on said laser scanning device so that position of its optical axis can be shifted in the auxiliary scanning direction.